CLAIMS

1. A vibration-generating small-sized motor that includes a mechanism to generate a vibration using an eccentric weight and that is mounted inside a portable electronic equipment equipped with an electrode or a power supply land on a circuit board, comprising within an external housing case thereof:

a stator and a rotor;

a commutation mechanism;

a power supply terminal that connects electrically with the electrode or power supply land of the electronic equipment; and

a terminal-blade mount on which the power supply terminal is mounted,

wherein said power supply terminal includes a pair of resilient terminal blades that are located on said terminal-blade mount provided at a face of the external housing case of the motor, facing each other and pressing together, and the electrode or the power supply land on the circuit board are clamped between said resilient terminal blades, whereby the vibration-generating small-sized motor can be electrically connected to the power supply of the electronic equipment.

2. The vibration-generating small-sized motor of claim 1, wherein said power supply terminal is a pair of terminal blades of resilient, curved leaf spring material, located facing each other at one end of the external housing case and substantially parallel to an axis of rotation.

3. The vibration-generating small-sized motor of claim 1, wherein said power supply terminal is a pair of terminal blades of resilient, curved leaf spring material, located facing each other at one side of the external housing case and substantially perpendicular to an axis of rotation.

4. The vibration-generating small-sized motor of any one of claims 1 through 3, wherein contact points of said terminal blades that face the electrode or the power supply

land on the circuit board and vicinity thereof are exposed, and remaining outer peripheral portions of said terminal blades are covered with an insulating material.

5. The vibration-generating small-sized motor of any one of claims 1 through 4, wherein each of the terminal blades of said pair of power supply terminals is independently positive or negative.

6. The vibration-generating small-sized motor of any one of claims 1 through 4, wherein both of the terminal blades of said pair of power supply terminals are either positive or negative, and two pairs are used together as positive and negative conductors.

7. The vibration-generating small-sized motor of any one of claims 1 through 6, wherein the electrode or the power supply land on the circuit board of the electronic equipment are inserted in a direction substantially parallel to said pair of resilient terminal blades located facing each other, whereby the vibration-generating small-sized motor can be electrically connected to the power supply of the electronic equipment.

8. The vibration-generating small-sized motor of any one of claims 1 through 7, wherein there are provided stoppers to limit the width of opening of said terminal blades in a direction that said terminal blades are pushed apart by the electrode or the power supply land on the circuit board.

9. A vibration-generating small-sized motor that includes a mechanism to generate a vibration using an eccentric weight and that is mounted inside a portable electronic equipment equipped with an electrode or a power supply land on a circuit board, comprising within an external housing case thereof:

a stator and a rotor;

a commutation mechanism;

a power supply terminal that connects electrically with the electrode or power supply land of the electronic equipment; and

a terminal-blade mount on which the power supply terminal is mounted,

wherein said terminal-blade mount is made of an insulating material and located on one end or side of the external housing case and includes a substantially U-shaped groove cut therein, there are provided resilient terminal blades facing each other that are located in a contact position corresponding to the electrode or the power supply land of the circuit board that are inserted into said groove, and the electrode or the power supply land are clamped between said resilient terminal blades when the electrode or the power supply land are inserted into said groove, whereby the vibration-generating small-sized motor can be electrically connected to the power supply of the electronic equipment.

10. The vibration-generating small-sized motor of any one of claims 1 through 9, wherein a position of connection of the electrode or the power supply land on the circuit board to the motor is in substantially the same plane as the central axis of rotation of the motor.

11. The vibration-generating small-sized motor of any one of claims 1, 2, and 4 through 9, wherein a position of connection of the electrode or the power supply lands on the circuit board to the motor is located at any desired point from the central axis of rotation of the motor to an outer periphery of the terminal-blade mount at the external housing case.

12. A mounting holder of a vibration-generating small-sized motor that covers an outside of an external housing case of the motor,

wherein an inside of the holder is formed in substantially the same shape as the outside of the external housing case of the motor, and there is provided a groove-shaped rail at a part of the outside of the holder in a facing direction,

whereby the motor can be fixed in place within a portable electronic equipment by an insertion of an edge of a circuit board or a portion of a case of the electronic equipment in said groove-shaped rail.

13. A mounting holder of a vibration-generating small-sized motor that covers an outside of an external housing case of the motor,

wherein an inside of the holder is formed in substantially the same shape as the outside of the external housing case of the motor, there is provided a groove-shaped rail at a part of the outside of the holder in a facing direction, there are provided extensions of the holder that project from both sides of said groove-shaped rail,

whereby the motor can be fixed in place within a portable electronic equipment by a suspension of either of said extensions inserted into an opening cut into a circuit board and by a pressing of the other extension between a portion of a case of the electronic equipment and the circuit board.

14. A mounting structure of a vibration-generating small-sized motor that is fixed in place within an electronic equipment by an insertion of a portion of an edge of a circuit board into a U-shaped groove rail at a facing position of a holder that covers an outside of an external housing case of the motor,

wherein extensions of said holder that project from both sides of said U-shaped groove rail are held under pressure by an assembly fitting of a divided equipment case of said electronic equipment, at the same time sandwiching said inserted circuit board,

whereby the motor can be fixed in place within said portable electronic equipment.

15. A mounting member for the vibration-generating small-sized motor of any one of claims 12 through 14, wherein the mounting member of said holder that covers the outside of the external housing case of the motor is made of a rubber-based elastic material.

16. A mounting member for the vibration-generating small-sized motor of any one of claims 12 through 14, wherein the mounting member of said holder that covers the outside of the external housing case of the motor is made of a resin-based insulating material.

17. A portable electronic equipment of any one of claims 1 through 11, 15, and 16, wherein there is provided a vibration-generating small-sized motor that includes a mechanism to generate a vibration using an eccentric weight and that is mounted inside a portable electronic equipment equipped with an electrode or a power supply land on a circuit board, said motor comprises within an external housing case thereof a stator and a rotor, a

commutation mechanism, a power supply terminal that connects electrically with the electrode or power supply land of the electronic equipment, and a terminal-blade mount on which the power supply terminal is mounted,

wherein said power supply terminal includes a pair of resilient terminal blades that are located on said terminal-blade mount provided at a face of the external housing case of the motor, facing each other and pressing together, and the electrode or the power supply land on the circuit board are clamped between said resilient terminal blades, whereby the vibration-generating small-sized motor can be electrically connected to the power supply of the electronic equipment,

wherein said motor includes a power supply mechanism in which each of the terminal blades of said pair of power supply terminals is independently positive or negative, and said circuit board within the electronic equipment includes wiring on both surfaces corresponding to said power supply mechanism.

18. A portable electronic equipment in which is mounted the vibration-generating small-sized motor of any one of claims 1 through 16.